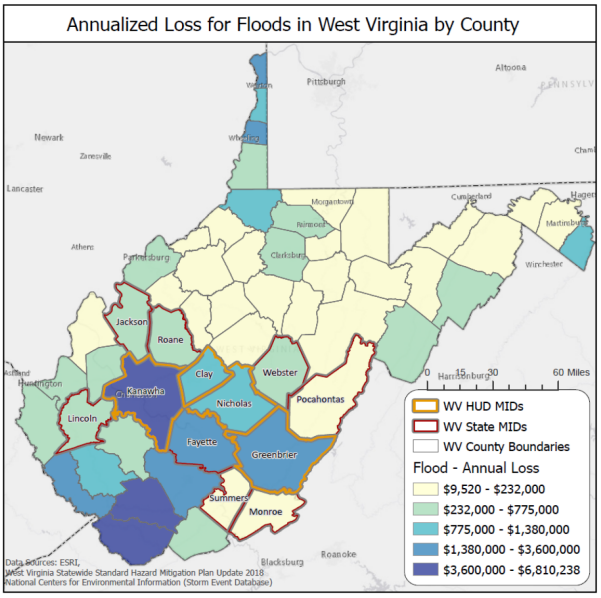
Increase Funding and Staffing for State Resilience Office to Decrease West Virginia Communities' Vulnerability to Flooding

Executive Summary

West Virginia has a long history of flooding, but the frequency and intensity of flood events is expected to continue to increase in coming years. Despite a recognized need for building community resilience to floods, the State Resilience Office has been under-resourced and has no plan in place for long-term flood response and recovery. Without such preparations, future flooding in West Virginia will have long-term impacts for communities and individuals, ranging from economic loss, to decreased quality of life, to preventable deaths. West Virginia policy makers should ensure the State Resiliency Office (SRO) is fully resourced and clearly mandated to prepare for flooding, including immediate response and long-term recovery for vulnerable communities across the state.



Introduction

The recent floods in Kentucky are a stark reminder of the toll flooding can take on Appalachian communities. All 55 counties in West Virginia have a high level of flooding risk according to the 2018 Statewide Standard Hazard Mitigation Plan. Since 1996, there has been a flooding-related federal disaster declared in every county. Between 1993 and 2017, floods resulted in an estimated $1.8 billion in property damage and 103 deaths. Future increases in flooding will be compounded by aging infrastructure and high levels of socioeconomic vulnerability. New flood risk data from the non-profit First Street Foundation, whose assessments incorporate climate models, ranks West Virginia at or near the top of the list for nearly every flood risk category, including for utilities, roads, fire and police stations, schools, and commercial properties.

Key messages and recommendations

1- West Virginia has a history of severe flooding, resulting in hundreds of lives lost and billions of dollars in damages.

2- All counties currently have high risk of flooding, which will increase as the climate changes.

3- Vulnerable communities struggle to make a full recovery from floods, resulting in declines in economic stability and overall quality of life.

4- West Virginia lawmakers should increase funding and staffing of the State Resiliency Office to ensure they are prepared for immediate flood response and long-term recovery.

Despite these known risks, response to recent flooding events have been plagued with issues and inefficiencies, and the state has yet to put in place a long-term flood recovery plan, even while recognizing that “few steps have been taken at the state or local levels to make coal communities more resilient to flooding.” A recent “West Virginia Infrastructure Survey” led by WVU researchers Jamie Shinn (Geology and Geography) and Emily Garner (Civil Engineering) asked West Virginia water sector professionals to assess water infrastructure challenges and 90% of respondents reported the need for increased flood assistance from the state and FEMA, and better coordination of response efforts. Without

better preparation, vulnerable West Virginia communities are at high risk for long-term economic impacts, decreased quality of life, and avoidable deaths.

Long-term struggle with flood recovery in Rainelle, West Virginia

A storm on June 23, 2016 delivered nearly 10 inches of rain in 24 hours to southeastern West Virginia, resulting in catastrophic floods that killed 23 people, destroyed 1,500 houses and 125 businesses, damaged 4,000 homes, and caused more than $1 billion in damages.

> **Quote from Rainelle Resident**
> *I know for a fact that the town was literally devastated with the flood to the point, say we have another one, heaven forbid, that would do the town in. They would have to bulldoze everything and turn it into a big pasture or something.*

June 2016 rescue efforts in Rainelle
Source: Register- Herald

Despite an influx of state and federal assistance, recovery efforts were complex and much of the rebuilding relied on nonprofit organizations. More than six years later, many towns impacted by the flood continue to struggle to rebuild and prepare for future disasters. Rainelle is an example of one town that suffered significant damages. One nonprofit estimated that 90% of homes in the downtown area needed to be demolished or significantly repaired after the flood. Today, individuals report ongoing anxiety and trauma from the flood, with little access to mental health services, and many buildings damaged by the flood still need to be repaired or demolished. What's more, ongoing economic recovery efforts have been further slowed by the COVID-19 pandemic. Rainelle, which has been described as a bellwether for other communities at risk of flooding, provides clear evidence for why West Virginia needs policy to increase community resilience to flooding.

Immediate Action Needed

To increase resilience to future floods in places like Rainelle, West Virginia policy makers should ensure the SRO is fully resourced to prepare for immediate flood response and long-term flood recovery in impacted communities. Filling the vacant role of SRO Director is an important first step, but additional funding and staffing are necessary to do this critical work, including: ensuring delivery of adequate assistance to communities immediately after a flood occurs, increasing training of existing first responders, creating local-level community response teams, and better coordinating a flood response network of relevant nonprofit and governmental organizations at local, state, and federal levels. The result will be improved resilience and recovery for West Virginia communities in the aftermath of future floods.

Acknowledgements

This work was supported by the WVU Provost Office's Academic Innovation Grant as well as the WVU Bridge Faculty Fellows Program.Thank you to Amy Owens for her assistance with the survey.

For More Information

Jamie Shinn, PhD, Assistant Professor, Department of Geology & Geography, jamie.shinn@mail.wvu.edu.